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## **CLAIMS:**

We claim:

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- 1. A peritoneal dialysis solution comprising as osmotic agents approximately 0.25 to about 4.0% by weight of synthetic polypeptides wherein the synthetic peptides are approximately 2 to about 15 amino acids long.
  - 2. A two part peritoneal dialysis solution designed to be mixed prior to infusion into a patient comprising:
- a first part housed in a first structure including approximately 1.0 to about 8% (w/v) dextrose and a pH of approximately 4.0 to about 5.5;

a second part housed in a second structure including approximately 0.5 to about 8.0% (w/v) polypeptides and a pH of approximately 6.0 to about 7.5; and

including in either the first or the second structure a sufficient amount of the following ingredients so when the first part and second part are mixed, the following is provided: 120 to about 150 (mEq/L) sodium; 80.0 to about 110.0 (mEq/L) chloride; 0.0 to about 5.0 (mEq/L) lactate; 0.0 to about 45.0 (mEq/L) bicarbonate; 0.0 to about 4.0 (mEq/L) calcium; and 0.0 to about 4.0 (mEq/L) magnesium.

- 3. The two part peritoneal dialysis solution of Claim 2 wherein the first 20 and second structures are two separate chambers of a single container.
  - 4. The two part peritoneal dialysis solution of Claim 2 wherein the pH of a resultant solution, comprising a mixture of the first part and the second part, is approximately 6.0 to about 7.4.
  - 5. The two part peritoneal dialysis solution of Claim 2 wherein the molecular weight average of the polypeptides is approximately 400 to about 900 daltons.
- 30 6. The two part peritoneal dialysis solution of Claim 2 wherein the polypeptides comprise:

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not more than approximately 0.10% of the polypeptides having a molecular weight of greater than 1200;

not more than approximately 25% of the polypeptides having a molecular weight of less than 400; and

the weight average of polypeptides being within the range of approximately 400 to about 900 daltons.

- 7. The two part peritoneal dialysis solution of Claim 2 wherein the polypeptides include synthetic polypeptides.
- 8. The two part peritoneal dialysis solution of Claim 2 wherein the synthetic polypeptides are approximately 2 to about 15 amino acids long.
- 9. An intraperitoneal drug delivery solution comprising approximately 15 0.25 to about 4.0% (w/v) polypeptides.
  - 10. The intraperitoneal drug delivery solution of Claim 9 wherein the molecular weight average of the polypeptides is approximately 400 to about 900 daltons.

11. The intraperitoneal drug delivery solution of Claim 9 wherein the polypeptides comprise:

not more than approximately 0.10% of the polypeptides having a molecular weight of greater than 1200;

not more than approximately 25% of the polypeptides having a molecular weight of less than 400; and

the weight average of polypeptides being within the range of approximately 400 to about 900 daltons.

12. A peritoneal dialysis solution comprising as osmotic agent:

a synthetic polypeptide mixture having an average molecular weight of approximately 400 to about 900 daltons.

- 13. The peritoneal dialysis solution of Claim 12 wherein the osmotic agent includes dextrose.
- 5 14. The peritoneal dialysis solution of Claim 12 wherein the solution includes:

approximately 120.00 to about 150.00 (mEq/L) of sodium; and approximately 80.0 to about 110.0 (mEq/L) of chloride.

- 15. The peritoneal dialysis solution of Claim 12 wherein the solution includes each of sodium, chloride, lactate, bicarbonate, calcium, and magnesium.
  - 16. The peritoneal dialysis solution of Claim 12 wherein the solution includes:

0 to about 45.00 (mEq/L) of lactate;

0 to about 45.00 (mEg/L) of bicarbonate;

0 to about 45.00 (mEq/L) of calcium; and

0 to about 45.00 (mEq/L) of magnesium.

- 20 17. The peritoneal dialysis solution of Claim 12 wherein the pH of the solution is approximately 6.0 to about 7.4.
  - 18. The peritoneal dialysis solution of Claim 12 wherein the synthetic peptides are approximately 2 to about 15 amino acids long.

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